

SUPERKILLERTRAIL® Pr

(soluble) (human), (recombinant)

Enhanced ligand with improved stability providing significantly enhanced immune activation.

SUPERKILLERTRAIL® (soluble) (human), (recombinant) is an enhanced ligand that utilizes the *Killer*™ linker peptide mutated to increase disulfide-mediated cross-linking to form a more stable oligomer.

It has been well established that signals transmitted via TNF ligands and receptors are critical in mediating inflammation, cancer, and immunity. This has led to drug development aiming to either reduce or enhance receptor response. One limitation in this process is the inherent instability of recombinant ligands and their inability to effectively mimic the natural clustering of TNF receptors on the cell surface required for immune activation. Oligomerization of TNF ligands such as SUPERKILLERTRAIL® has been shown to improve stability and significantly enhance immune activation compared to recombinant ligands alone.

TNF-related apoptosis-inducing ligand (TRAIL) is a protein ligand that induces the process of cell death called apoptosis.

Citations: 37

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Ordering Information

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ALX-201-115-C010	10µg
ALX-201-115-3010	3x10µg

Manuals, SDS & CofA

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- Increased stability
- Enhanced immune activation

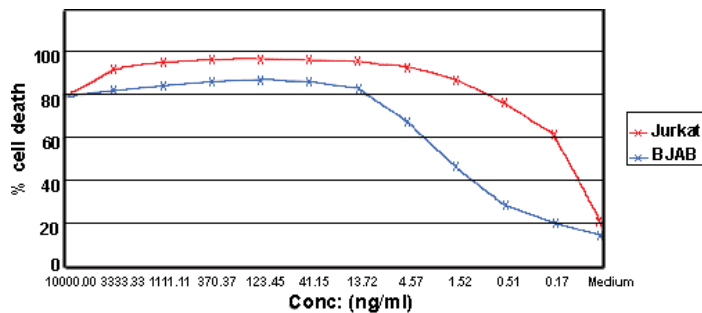


Figure: Apoptosis of TRAIL-sensitive cells. Apoptosis induction in BJAB cells by SUPERKILLERTRAIL[®], Soluble (human) (rec.) reveals killing activity at concentrations of 10-15ng/ml, on Jurkat cells even as low as 1-10ng/ml. **Method:** 5×10^4 human BJAB cells were cultured in 50 μ l RPMI 1640 medium containing 10% fetal calf serum for 18 hours at 37°C in a 96-well plate in the presence of the indicated concentrations of SUPERKILLERTRAIL[®], Soluble (human) (rec.). Concentrations of SUPERKILLERTRAIL[®], Soluble (human) (rec.) required to induce apoptosis may vary depending on the cell type studied. Cell death was quantified by forward/sideward scatter (FSC/SSC) combined with propidium iodide (PI) staining analyzed by flow cytometry.

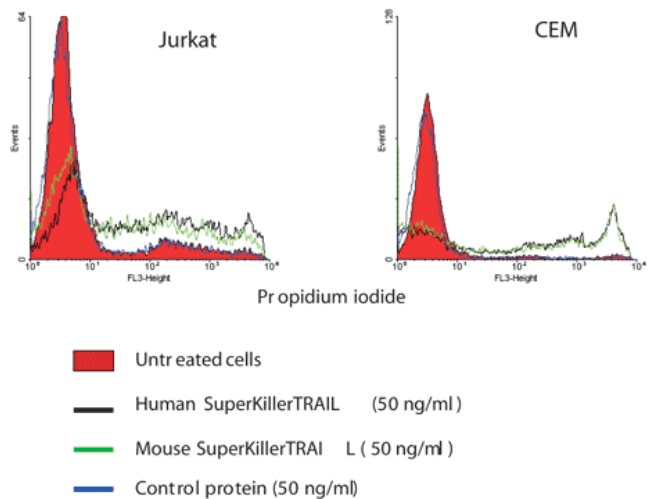


Figure: Comparison of pro-apoptotic activities of human and mouse SUPERKILLERTRAIL[®], Soluble (human) (rec.) on human tumor cell lines Jurkat and CEM. **Method:** Cells were treated with mouse and human SUPERKILLERTRAIL[®], Soluble (human) (rec.) (CC-mutant) (50ng/ml) for 14 hours, stained with propidium iodide and analyzed by flow cytometry.

Handling & Storage

Use/Stability	Once thawed it is recommended to prepare appropriate aliquots and to store them at -80°C. In order to retain full activity aliquote concentration must be at least 0.1mg/ml; prepare 20µl aliquots and store at -80°C. Working dilution: 2-100ng/ml. Recommended: Prod. No. ALX-505-005, special storage and dilution buffer.
Handling	Avoid freeze/thaw cycles.
Long Term Storage	-80°C
Shipping	Dry Ice

Regulatory Status

RUO - Research Use Only

Product Details

Alternative Name	TNFSF 10, Apo-2L, CD253
Biological Activity	Induces apoptosis at concentrations of >5ng/ml. Note: Does not require a cross-linking enhancer for its potent biological activity. Shows superior activity on human cell lines that require extensive cross-linking of TRAIL-Rs for killing (e.g. Jurkat).
Concentration	0.5mg/ml
Endotoxin Content	<0.01EU/µg purified protein (LAL test).
Formulation	Liquid. HEPES, pH 7.4, sodium chloride, Tween 20, sucrose, azide free and 1mM DTT.
MW	~26kDa
Purity	≥98% (SDS-PAGE). MS analysis, <1% impurity (mainly Hsp70 protein from E. coli)
Purity Detail	Affinity purified. Sterile filtered.
Source	Produced in <i>E. coli</i> . The extracellular domain of human TRAIL (aa 95-281) is fused at the N-terminus to a His-tag and a linker peptide. The active multimeric conformation is stabilized by an inserted mutation allowing an additional CC-bridge.

Specificity

Binds to human TRAIL receptors.

Technical Info / Product Notes

[Click here](#) for an example of SUPERKILLERTRAIL® used by Eidgenössische Technische Hochschule (ETH) Zürich.

UniProt ID

P50591

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